The following is a complete listing of all claims in the application, with an indication of the status of each:

Listing of claims:

1. (currently amended) A decoding apparatus comprising:

reception means for receiving data on a dedicated physical control channel and data on a dedicated physical data channel, which are coded into a complex code of a single system which is to be transmitted as an uplink signal from a mobile unit to a base station in a 3rd generation cell phone system, said complex code including a quadrature code representation of Transport Format Combination Indicator (TFCI) information contained within said control channel data;

TFCI decoding characteristic feedback means for using quadrature correlation characteristics of said quadrature code to determine ~~determining~~ TFCI decoding characteristics of a coded TFCI code on the dedicated physical control channel; and

dedicated physical data channel correcting means for performing data correction for the dedicated physical data channel on the basis of a determination result on the TFCI decoding characteristics.

2. (original) An apparatus according to claim 1, wherein said TFCI decoding characteristic feedback means comprises

dedicated channel control means for controlling a dedicated channel, outputting a TFCI count corresponding to a service, and outputting a decoding parameter corresponding to a received TFCI value,

data correcting means for processing a correction value calculated from TFCI decoding characteristics of a dedicated physical control channel

with respect to data on a dedicated physical data channel which is received from a mobile unit,

de-interleave rate de-matching means for channel-decoding an output from said data correcting means on the basis of a decoding parameter from said dedicated channel control means, and

error correcting/decoding means for decoding an output from said deinterleave rate dematching means while performing error correction for the output to obtain decoded data on the dedicated physical data channel, and

said dedicated physical data channel correcting means comprises

symbol data determining means for extracting/separating a TFCI code from data on a dedicated physical control channel,

soft decision TFCI decoding means for TFCI-decoding a TFCI code output from said symbol data determining means on the basis of a TFCI count from said dedicated channel control means, transmitting an obtained TFCI value to said dedicated channel control means, and outputting correlation values with a Walsh quadrature vector at the time of TFCI decoding,

correlation value characteristic storage means for sequentially storing correlation values output from said soft decision TFCI decoding means, and

correction value calculating means for determining TFCI decoding characteristics from a plurality of correlation values stored in said correlation value characteristic storage means, calculating the correction value, and outputting the correction value to said data correcting means.

3. (original) An apparatus according to claim 2, wherein said soft decision TFCI decoding means comprises

data interchanging means for changing a data order of a reception TFCI code to allow the code to be subjected to fast Hadamard transform as a Walsh quadrature vector,

a mask code correlation table which is a code table of 16 combinations of mask codes in a TFCI code which are obtained by mod2 addition,

mask code correlation calculating means for calculating a correlation between an output code from said data interchanging means and said mask code correlation table,

fast Hadamard transform means for performing Hadamard transform of a code output from said mask code correlation calculating means,

peak correlation value determining means for determining an absolute peak value of Hadamardtransformed data output from said fast Hadamard transform means, performing positive/negative determination on the peak value, and determining an index thereof to obtain correlation values with a Walsh quadrature vector at the time of TFCI decoding, and

TFCI determining means for determining a TFCI value from a determination result from said peak correlation value determining means.

4. (currently amended) An apparatus according to claim 3, wherein said soft decision TFCI decoding means further comprises

TFCI code generating means for generating a TFCI code from a TFCI value obtained by said TFCI determining means,

hard decision TFCI code comparing means for comparing a TFCI code generated by said TFCI code generating means with a TFCI code input to said soft decision TFCI decoding means to determine whether an error has occurred, and

said correction value calculating means controls calculation of the correction value in accordance with an error determination result obtained by said hard decision TFCI code comparing means.

5. (currently amended) A radio base station apparatus comprising a decoding apparatus including:

reception means for receiving data on a dedicated physical control channel and data on a dedicated physical data channel, which are coded into a complex code of a single system which is to be transmitted as an uplink signal from a mobile unit to a base station in a 3rd generation cell phone system, said complex code including a quadrature code representation of Transport Format Combination Indicator (TFCI) information contained within said control channel data;

TFCI decoding characteristic feedback means for using quadrature correlation characteristics of said quadrature code to determine ~~determining~~ TFCI decoding characteristics of a coded TFCI code on the dedicated physical control channel; and

dedicated physical data channel correcting means for performing data correction for the dedicated physical data channel on the basis of a determination result on the TFCI decoding characteristics.

6. (currently amended) A decoding method comprising:

the first step of receiving data on a dedicated physical control channel and data on a dedicated physical data channel, which are coded into a complex code of a single system which is to be transmitted as an uplink signal from a mobile unit to a base station in a 3rd generation cell phone system, said complex code including a quadrature code representation of Transport Format Combination Indicator (TFCI) information contained within said control channel data;

the second step of using quadrature correlation characteristics of said quadrature code to determine ~~determining~~ TFCI decoding characteristics of a coded TFCI code on the dedicated physical control channel; and

the third step of performing data correction for the dedicated physical data channel on the basis of a determination result on the TFCI decoding characteristics.

7. (original) A method according to claim 6, wherein the second step comprises

the step of extracting/separating a TFCI code from received data on a dedicated physical control channel,

the step of TFCIdecoding the TFCI code, obtaining correlation values with a Walsh quadrature vector, and sequentially storing the correlation values,

the step of determining TFCI decoding characteristics from a plurality of stored correlation values, and

the step of calculating a correction value for data correction on the dedicated physical data channel.

8. (currently amended) A method according to claim 7, wherein the second step comprises

the step of changing a data order of a reception TFCI code to allow the code to be subjected to fast Hadamard transform as a Walsh quadrature vector,

the step of calculating a correlation between the TFCI code after interchanging and a preset code table of 16 combinations of mask codes in a TFCI code which are obtained by ~~mod2~~ modulo 2 addition, and performing fast Hadamard transform, and

the step of determining an absolute peak value of Hadamard-transformed data, performing positive/negative determination on the peak

value, and determining an index thereof to obtain correlation values with a Walsh quadrature vector at the time of the TFCI decoding.

9. (original) A method according to claim 8, wherein the second step comprises

the step of generating a TFCI code in accordance with a TFCI value obtained from determination results on the absolute peak value of Hadamard-transformed data, positive/negative decision on the peak value, and the index thereof,

the step of determining the presence/absence of an error by comparison with the reception TFCI code, and

the step of controlling calculation of the correction value in accordance with the error determination result.

10. (currently amended) An apparatus according to claim 1, wherein said apparatus further comprises reception Signal-to-Interference Ratio (SIR) measuring means for measuring a reception SIR from a known pilot symbol on the dedicated physical control channel, and

said dedicated physical data channel correcting means performs data correction for the dedicated physical data channel on the basis of a determination result on the TFCI decoding characteristics and the measurement result on the reception SIR.

11. (currently amended) A radio base station apparatus comprising a decoding apparatus including:

reception means for receiving data on a dedicated physical control channel and data on a dedicated physical data channel, which are coded into a complex code of a single system which is to be transmitted as an uplink signal

from a mobile unit to a base station in a 3rd generation cell phone system, said complex code including a quadrature code representation of Transport Format Combination Indicator (TFCI) information contained within said control channel data;

TFCI decoding characteristic feedback means for using quadrature correlation characteristics of said quadrature code to determine ~~determining~~ TFCI decoding characteristics of a coded TFCI code on the dedicated physical control channel;

reception Signal-to-Interference Ratio (SIR) measuring means for measuring a reception SIR from a known pilot signal on the dedicated physical control channel; and

dedicated physical data channel correcting means for performing data correction for the dedicated physical data channel on the basis of a determination result on the TFCI decoding characteristics and the measurement result on the reception SIR.

12. (currently amended) A method according to claim 6, wherein the method further comprises the step of measuring a reception Signal-to-Interference Ratio (SIR) from a known pilot signal on the dedicated physical control channel, and

in the third step, data correction is performed for the dedicated physical data channel on the basis of the determination result on the TFCI decoding characteristics and the measurement result on the reception SIR.